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FARMERS' BULLETIN~1196
UNITED STATES DEPARTMENT OF AGRICULTURE

**STANDARD
CONTAINERS
FOR
FRUITS~AND
VEGETABLES**

THE standardization of containers for marketing fruits and vegetables is one of the important problems which demands the attention of the general public. It is vitally necessary in the interest of a square deal that the exact content of such packages be generally known and that the different sizes be readily distinguishable from each other.

Federal standards are now in force regulating the sizes of barrels used for fruits and vegetables and for cranberries. Federal standards are also fixed for grape baskets, berry boxes, and small till baskets.

A serious lack of uniformity is still to be corrected in the sizes of such packages as hampers, round stave baskets, splint or market baskets, and of many boxes and crates used in the marketing of perishables.

Contribution from the Bureau of Markets

GEORGE LIVINGSTON, Chief

Washington, D. C.

April, 1921

STANDARD CONTAINERS FOR FRUITS AND VEGETABLES.

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IMPORTANCE OF STANDARD CONTAINERS.

STANDARD containers for marketing fruits and vegetables are of more interest to the average citizen than he generally realizes. Not only is he defrauded frequently by the substitution of short-measure packages at the full-measure price, which is inevitable if the difference in the size of packages is not easily detected, but also the cost of marketing is increased by the greater expense of manufacturing a large number of unnecessary styles and sizes and by breakage in transit, sometimes directly attributable to the difficulty of loading odd-sized containers. These losses constitute a wholly unnecessary tax on the fruit and vegetable industry.

SOME CAUSES OF VARIATIONS.

Probably the most important factor contributing to the present unsatisfactory situation is the use of regional packages long established by local usage. Such packages may have been satisfactory when their use was confined to a limited territory, but of late years rapid transportation and the use of special refrigerator and ventilator cars have brought the products of every corner of this country into our great marketing centers where the diversity of styles and sizes of containers have resulted in confusion.

There are in common use to-day about 40 sizes of cabbage crates, 20 styles of celery crates, 30 lettuce crates or boxes, 50 styles and sizes of hampers, 15 styles and sizes of round stave baskets, and

¹ The investigations which yielded the information presented in this bulletin were carried on by Mr. Downing. H. W. Samson, Specialist in Standardization, completed the preparation of the material for publication.

market baskets varying in sizes from 1 quart to 24 quarts, whereas relatively few standard sizes would satisfy all the demands of the trade.

The unfair competition of short-measure containers has been another unsatisfactory factor. Certain shrewd packers have found that by slight modifications in the shape of packages (See fig. 1) the cubical content can be reduced substantially without noticeably affecting the appearance. Commodities sold in these containers can be offered at a lower price per package than those sold in standard packages, but the price per unit of weight is of course higher. Often this has caused the general adoption of the short-measure package, and there is no end to this procedure, for once the short-measure is recognized as the standard a still shorter one is put out by the unscrupulous minority.

The 6-quart market basket, the 14-quart peach basket (fig. 1), the seven-eighths bushel bean hamper, and the 5-peck lettuce hamper are easily confused with peck, half-bushel, bushel, and $1\frac{1}{2}$ -bushel baskets. (See figs. 3 and 4.)

Another factor which has caused the addition of many unnecessary packages is the lack of a unit which is accepted as the basis for all package standards. If a manufacturer wishes to introduce a crate into a producing section normally using the barrel, instead of using the bushel unit, the tendency is to offer a barrel crate or half-barrel crate. At the present time the crates and boxes are being manufactured in sizes based on the United States standard barrel (105 quarts) with its subdivisions, the United States cranberry barrel ($86\frac{2}{3}$) with its subdivisions, the weight bushel, the heaped bushel, and the volume bushel. These different standards are used because of competing packages.

The result may be seen by a glance at the following table:

Three series of crates which can not be readily distinguished from each other.

Crates based on United States apple barrel.	Crates based on United States cranberry barrel.	Crates based on standard bushel.
1-barrelcrate, 105 quarts.....	1-barrelcrate, $86\frac{2}{3}$ quarts.....	3-bushelcrate, 96 quarts.
$\frac{1}{2}$ -barrelcrate, 52 $\frac{1}{2}$ quarts.....	$\frac{1}{2}$ -barrelcrate, $43\frac{1}{3}$ quarts.....	$1\frac{1}{2}$ -bushelcrate, 48 quarts.
$\frac{1}{3}$ -barrelcrate, 35 quarts.....	$\frac{1}{3}$ -barrelcrate, 28 $\frac{2}{3}$ quarts.....	1-bushelcrate, 32 quarts.

It is highly improbable that anyone could tell the one-third cranberry barrel crate, containing approximately 29 quarts, from the standard bushel of 32 quarts, and even less likely that the one-half apple barrel crate, holding 52 $\frac{1}{2}$ quarts, could be distinguished from the $1\frac{1}{2}$ bushel crate, which contains 48 quarts. (See fig. 2.)

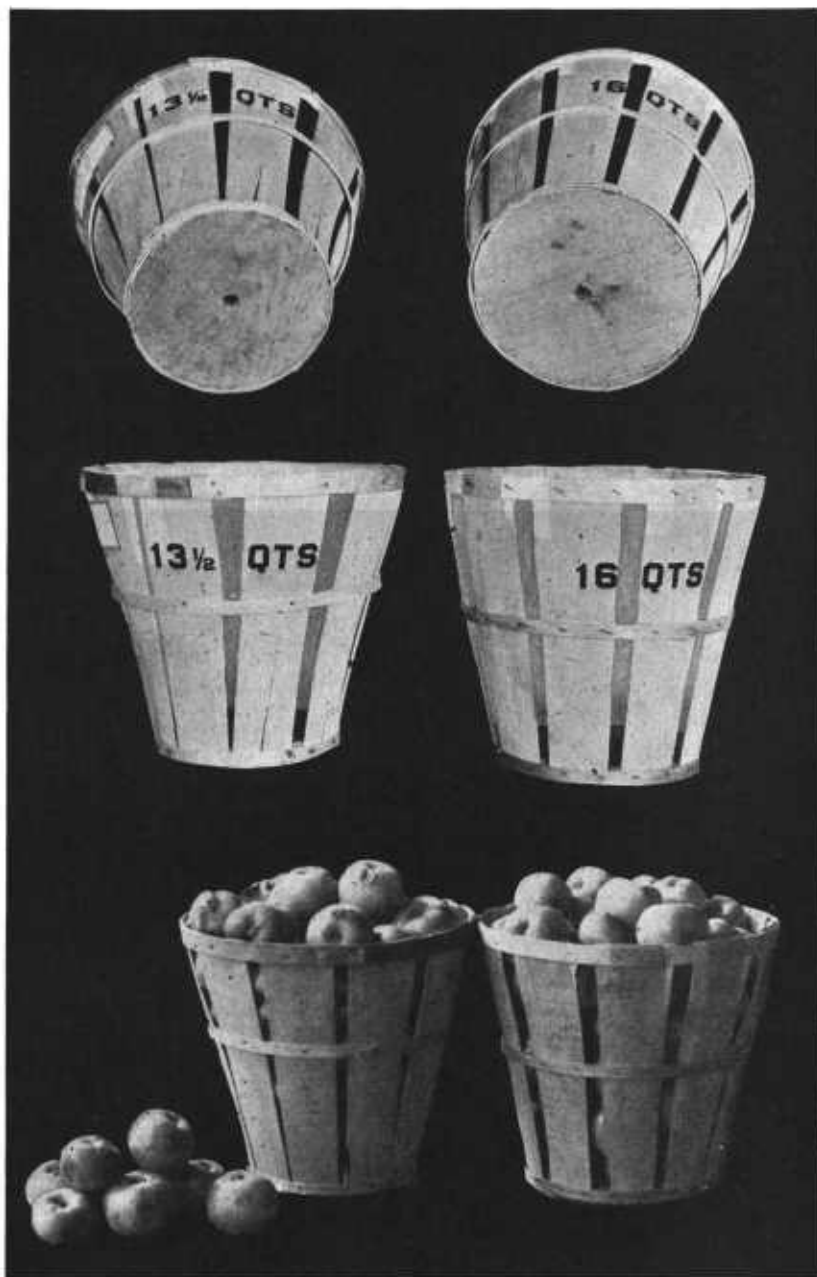


FIG. 1.—The apples on the floor represent the difference in the contents of the 14-quart and 16-quart baskets. By reducing the diameter of the bottom $\frac{1}{2}$ inch and making no change in the height of the baskets the deception is accomplished.

EXISTING FEDERAL STANDARDS.

The standard containers provided by the Federal Government for the marketing of fruits and vegetables are the standard barrel, con-

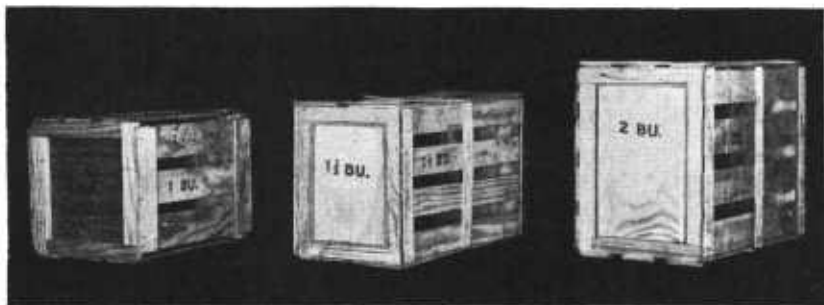


FIG. 2.—Suggested 1-bushel, 1½-bushel, and 2-bushel crates for general marketing. These sizes are easily distinguished, one from the other, by the eye.



FIG. 3.—The standard bushel hamper of 32 quarts holds nearly a peck more than the short hamper. Thirty-three per cent of the hampers manufactured to-day are short bushels. The beans in front of the short hamper represent the difference in quantity held by the two baskets.

taining 7,056 cubic inches, and its subdivisions; the cranberry barrel, containing 5,826 cubic inches, with its subdivisions; three standard sizes of Climax or grape baskets, containing 2, 4, and 12 dry quarts,

respectively; and standard berry boxes and till baskets, containing dry one-half pint, dry pint, dry quart, and multiples of the dry quart. The standard apple and vegetable barrel, which is ordinarily supposed to contain 3 bushels, actually holds 9 quarts in excess of that amount. In establishing this standard theoretical considerations were laid aside and the same dimensions and capacity were adopted as those of the flour barrel. The subdivisions of the barrel are three-fourths barrel, one-half barrel, and one-third barrel. The

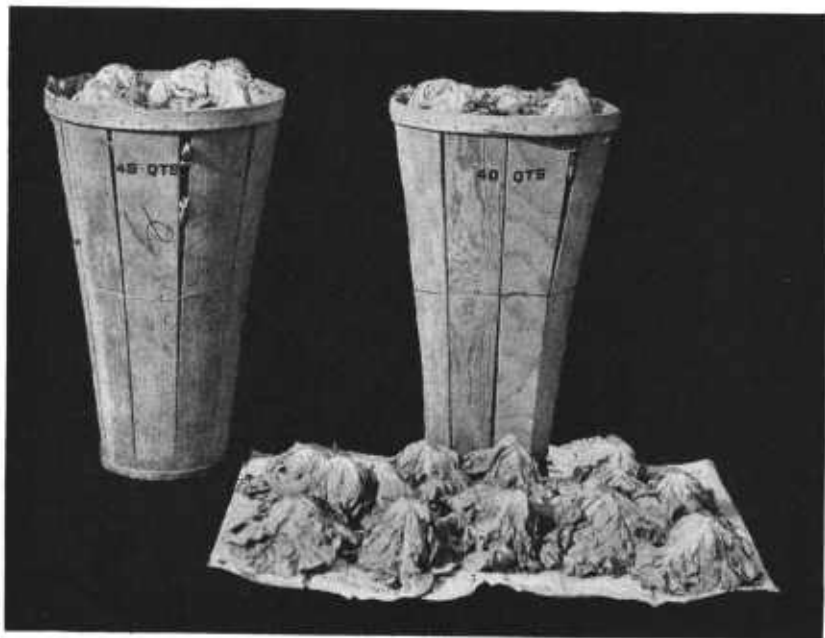


FIG. 4.—Lettuce hampers vary in capacity from 40 quarts to 48 quarts, but frequently wholesale at the same price. The smaller basket in the picture holds 37 heads of lettuce, the larger 49 heads. The difference in contents is shown on the ground.

standard barrel Act is enforced by the Bureau of Standards, Department of Commerce, and in those States which have legally adopted the Federal standard, also by the local sealers of weights and measures.

The United States standard container Act, fixing standards for Climax baskets and for berry boxes and small till baskets, is enforced by the Bureau of Markets of the Department of Agriculture.

The two acts have done away with a large number of unnecessary sizes of barrels, berry boxes, and grape baskets, and have awakened a widespread demand for the application of the same principle to other containers. (See figs. 5 and 6.)

NEED FOR A FIXED UNIT AS BASIS FOR STANDARDS.

The dry quart with its subdivisions and multiples is a satisfactory basis for standardizing such small containers as the berry box and small till basket, but for larger packages a larger unit must be adopted, so that the purchaser of commodities in such containers can recognize readily the various sizes. For this purpose the Winchester bushel or struck bushel, containing 2,150.42 cubic inches, is believed the most satisfactory unit. The weakness of adopting arbitrary



FIG. 5.—Above: Tills or small fruit baskets now standardized by law. Below: Some of the sizes of small fruit baskets in common use before Government standardization.

standards has already been shown as a cause of the present unsatisfactory situation.

A standard unit of measure should be permanent, definite, and of fixed and uniform value. The heaped bushel which is in common use is far from being fixed, and in many instances the heap has practically disappeared. A proper heap has never been defined by Congress, and in those States where an attempt has been made to describe the manner in which the measure should be heaped the phraseology generally is vague and indefinite. The heap has been referred to as a cone, the base being the top of the measure, and the height depending on the nature of the article when piled "as high as may be without special effort or design." Such vegetables as sweet potatoes under this definition might be piled so high that the heap would be as large as the measure itself.

Furthermore in certain States where determined efforts have been made to secure a proper heap to the measure, dealers have provided themselves with measures of small diameter. (See fig. 9.) Obviously the smaller the diameter of the measure the smaller the heap.

In case of shipping packages which must be provided with covers the heap necessarily must be eliminated. The State of New York has recognized these objections by repealing its laws requiring certain commodities to be sold by the heaped measure.



FIG. 6.—Above: Two, four, and twelve-quart Climax or grape baskets. Shipments of other sizes in interstate trade are prohibited by law. Below: Thirty-one types of Climax baskets in general use in 1917, before the establishment of standards.

Many States have attempted to define the bushel in terms of weight. However, if the bushel is at the same time to be regarded as a unit of volume this is impossible, as the weight of any given volume of fruits or vegetables will vary with the size, variety, condition of the product, and the tightness of the pack. Figure 8 shows a typical example. Here are two sweet-potato crates, one having a capacity of 1 Winchester bushel and the other an estimated capacity of 1 legal weight bushel. Both crates are sold as a bushel, but there is a difference of almost a peck in the actual content.

It is not clear just what was the basis for the weight-per-bushel laws which are now in effect, and wide differences may be found in

the laws of the various States. To illustrate, the legal weight per bushel of sweet potatoes is 46 pounds in the Dakotas and 60 pounds in Maryland, that of unshelled green peas is 28 pounds in Massachusetts and 56 pounds in Pennsylvania. A bushel of tomatoes is 45 pounds in Oklahoma and 60 pounds in Virginia. If the various States were to enforce rigidly these weight-per-bushel laws, interstate commerce certainly would be carried on under tremendous difficulties.

The struck bushel, which is the Winchester bushel of 2,150.42 cubic inches, is the most satisfactory unit for package standardization. It is recognized indirectly through a resolution of Congress, passed

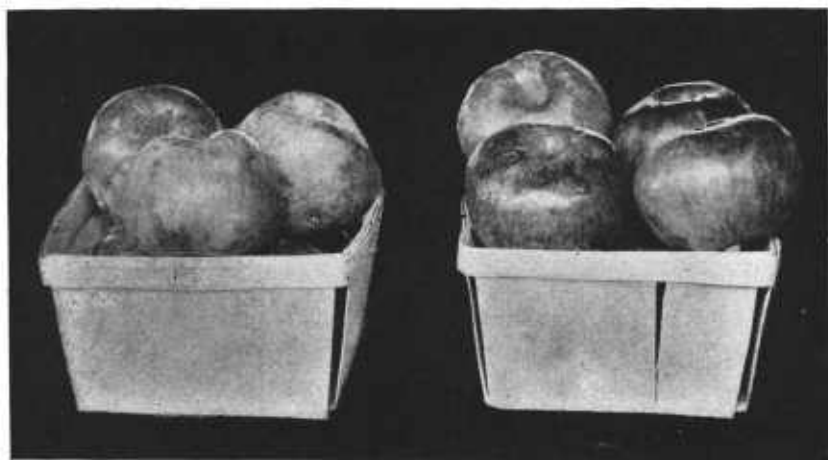


Fig. 7.—Misuse of a basket. Quart berry boxes are intended only for the marketing of berries, cherries, and similar fruits. There is a variation of 14 per cent in the weight of the apples in these baskets.

and approved in 1836, authorizing the Secretary of the Treasury to prepare a set of weights for use in the customhouses and for other purposes. The Treasury Department adopted the Winchester bushel and most of the States now recognize this standard by legislative enactment. A package based upon this fixed unit of volume, when filled level with the top, is recognized easily as a full measure. (See fig. 2.) Any variation or slackness in filling is detected at once even by the untrained eye.

SALES BY MEASURE VERSUS SALES BY WEIGHT.

In view of the difficulties which are necessarily encountered in attempting to secure a uniform method of filling or packing standard containers, it is generally recognized that weight is the only really definite basis of sale, and for that reason the pound or hundred-weight should be used where this is practical. An exception may be noted in regard to products which are carefully graded as to size,

in which case the sales may be made satisfactorily by numerical count.

To avoid such abuses as are frequently incident in repacking, the sale of commodities in quantities less than the original package should be by weight or numerical count. For example, 4-quart baskets of peaches are sometimes repacked so loosely that an extra basket is gained out of every 5 or 6 repacked; and 3 or 4 pounds of Malaga grapes are often removed from the California 4-basket grape crate before they are displayed for sale. Another evil attendant upon repacking is the use of small containers, which, although they conform to the standards, are not suitable for measuring certain products for which they are not intended. The 1-quart berry box and 2-quart and 3-quart till baskets are used extensively by retail dealers in the sale

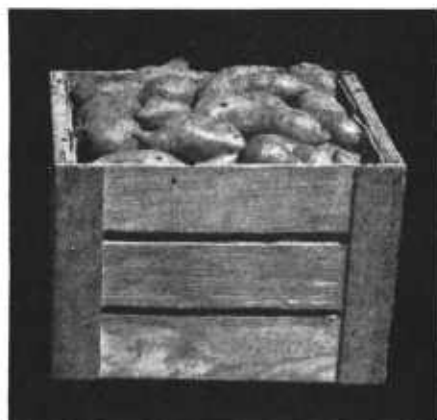


FIG. 8.—These small potato crates vary 3 inches in length. Both are sold as bushels. The small 15-inch crate holds a volume bushel.

of apples, peaches, onions, and other large fruits or vegetables. Figure 7 shows how such dealers frequently resort to deceptive methods of packing, thus defrauding the unsuspecting customer who pays well for the empty spaces in the bottom of the basket.

However, for obvious reasons transactions involving the sale of original containers often can not be made on a net-weight basis without adding greatly to the cost of marketing. Perishable commodities must be handled with all possible dispatch, and the time and labor required to weigh each package would more than offset the good which might result from a knowledge of the exact weight. Furthermore, many sales are made while the products are in transit to market, and even if the weight at time of packing were known, a considerable variation from this weight might occur as a result of shrinkage due to drying out or decay. Then, too, a shipping package must be filled compactly without regard to weight or the product may be damaged by the movement within the container. In gen-

eral it may be said that transactions involving the sale of packed fruits or vegetables in the original container should be made by the standard package, but when it is necessary to break such packages in order to dispose of the commodity in smaller quantities, sales should be made by weight or count.



FIG. 9.—The double-ended measure, being narrower at the top than at the bottom, is easily "stacked." Its use is forbidden by law in many States.

PROPER FILLING.

It is greatly to the advantage of all parties interested in marketing fruits and vegetables that, in addition to fixing standards for containers, proper methods of filling be employed. If containers are not

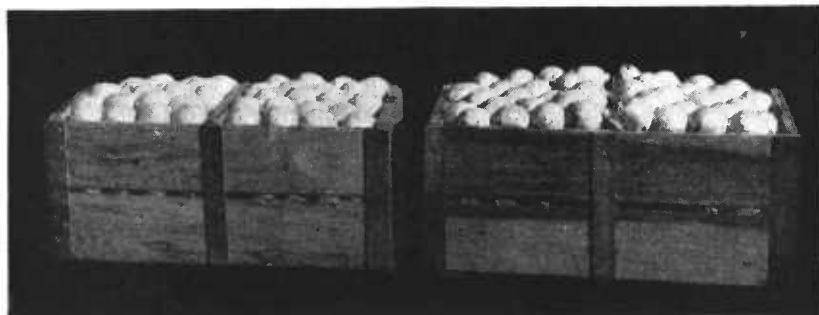


FIG. 10.—Florida orange box showing "bulge pack." Left: The straight pack. Right: The pyramid pack.

well filled the waste space increases the package cost, and since freight charges are ordinarily based on an estimated per-package weight, the carriers receive pay for more than they actually carry when the containers are not full (See fig. 11); also the product is likely to be shaken and bruised in transit and discriminated against

by dealers in the markets on account of its poor appearance. The price penalty paid on account of poor filling is usually much greater than the actual weight shortage would warrant.

It is customary in packing fruits and vegetables to arrange the product to provide a bulge above the top of the container. (See fig. 10.) The cover is then put in place by pressure. When the height of the pack is not excessive this is a very desirable practice. As the natural shrinkage and settling occurs the product is held securely in



FIG. 11.—A "slack fill" of string beans in a short or $\frac{3}{4}$ bushel bean hamper. The beans at right weigh 23 pounds, at left 25 pounds. Average weight of properly filled hampers is 27 pounds.

place until the shrinkage is sufficient to offset the bulge. The extra amount of produce is more than paid for by the ready sale and better price which can always be secured for an attractive pack.

NEED OF FEDERAL STANDARDS FOR BASKETS.

There are three important shipping containers which are especially in need of standardization at the present time—the hamper, the round stave basket, and the market or splint basket. Investigations in all parts of the United States where these packages are used have shown a serious lack of uniformity in capacity, shape, and strength which could be corrected by the adoption of standards which have been prepared by the Bureau of Markets.

HAMPERS.

The hamper is one of the most widely used shipping containers, and is especially popular in the Eastern and Southern States. Almost 30,000,000 of these baskets are used annually. When made of light materials it is well adapted for marketing light produce, such as lettuce and kale, and when of heavier construction can be used in shipping such products as sweet potatoes and apples.

A glance at figure 12 shows a large number of styles and sizes in use at present. On account of the different shapes and sizes it is practically impossible for a purchaser to know just how much he is getting.

The need for standard dimensions perhaps is not generally recognized. On first consideration it would seem that if all standard bushel baskets contained the same cubic content there would be no chance for deception. This is not altogether true, as will be seen by referring to figure 13.

The baskets shown in this group are all standard bushels, but one would never know it by looking at them. Another important reason for fixing standard dimensions is to facilitate the development of standard rules for loading these containers in cars.

It is estimated that one-third of the so-called half-bushel hampers which are manufactured to-day are short measure. In fact, the use of the 14-quart basket has become universal in certain districts, having entirely supplanted the 16-quart or half-bushel basket.

The seven-eighths or 28-quart hamper is another size which should be eliminated. (See fig. 3.) It is used largely for shipping southern produce and masquerades as a full bushel in the markets. This basket has already been declared illegal in the States of Texas, New Jersey, and Ohio and in the District of Columbia. It is interesting to know that about 25 per cent of what are commonly supposed to be bushel baskets are short measure.

Still another size in common use which should be eliminated is the 5-peck hamper. This size does not meet any need which is not filled by the 1-bushel and $1\frac{1}{2}$ -bushel sizes.

The 20-quart or five-eighths bushel brace basket is used chiefly in the territory tributary to Philadelphia, where it is employed extensively in hauling tomatoes to the canneries. This size hamper is not to be regarded as a short container, as it is more likely to be confused with the 16-quart or half-bushel basket than with a larger size, but it does not appear in the list of proposed standards which are recommended by the Bureau of Markets.

The sizes of hampers which are recommended by the Bureau of Markets as being sufficient in number to satisfy all legitimate re-

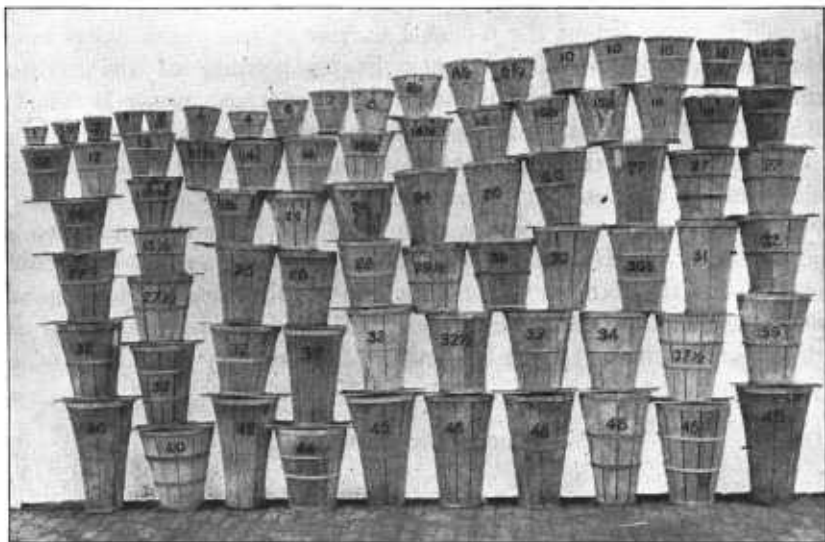
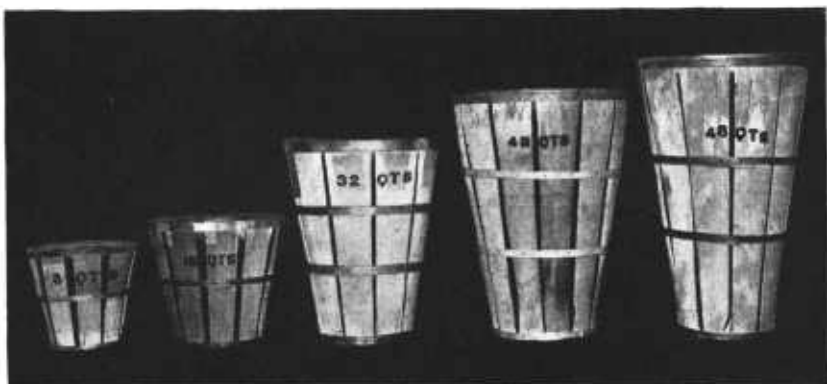


FIG. 12.—Above: Proposed standard hampers. All other styles should be eliminated. The $1\frac{1}{2}$ bushel hamper is made in two styles. Below: Group of hampers showing sizes and styles in general use to-day. A striking illustration of the need of standardization.



FIG. 13.—Showing need of standard dimensions for bushel hampers. The height of the six standard bushels varies from 17 inches to $22\frac{1}{2}$ inches, making a carlot loading of mixed hampers difficult.

quirements of the trade are as follows: Eight-quart, or 1 peck; 16-quart, or $\frac{1}{2}$ bushel; 32-quart, or 1 bushel; and 48-quart, or $1\frac{1}{2}$ bushel. (See fig. 12.) All of these sizes are necessary. It will be observed that there are two styles of 48-quart hampers shown in the illustration. These two styles are not necessary, but it seems expedient to use both, since the tall, narrow one is demanded in Florida for shipments of lettuce, but is not popular in other parts of the country, where a hamper of greater diameter is preferred.

ROUND STAVE BASKETS.

The round stave basket is popular in all regions except the Southern and Middle Atlantic States and on the Pacific coast. It is used for shipping a large variety of fruits and vegetables and is also used in the field in place of lug boxes. In recent years it has supplanted to some extent the 6-basket carrier in the peach districts of Georgia and the Middle Atlantic States because of the greater amount of labor necessary for packing the carrier. Some 18,000,000 or 20,000,000 round stave baskets are manufactured annually.

Figure 15 shows that in the case of the round stave basket, as well as in that of the hamper, a large number of unnecessary sizes are being manufactured at present. The sizes which are recommended as standards by the Bureau of Markets are the same as those recommended for the hamper except for the elimination of the 8-quart and the addition of the 2-bushel size. These four sizes shown in the upper part of figure 15 can be distinguished readily from each other by the eye.

SPLINT BASKETS.

Splint or veneer baskets are better known to the public as market baskets. They are manufactured from either broad or narrow splints, and there is a wide diversity in the dimensions of the forms used by the different manufacturers. The broad-splint type is sometimes known as the solid veneer basket.

Splint baskets may be divided into three classes—overhandle, drop-handle, and square-cornered. The overhandle has a single handle nailed to the center of each side; the drop-handle type has two handles that fold back over each end of the basket when not in use; and the square-cornered type, as the name indicates, has square instead of round corners. It is the best type of the three for shipping, as it is the strongest, and also loads in freight or express cars to better advantage. Square-cornered baskets are used extensively in the marketing of hothouse products, such as lettuce, tomatoes, and cucumbers.

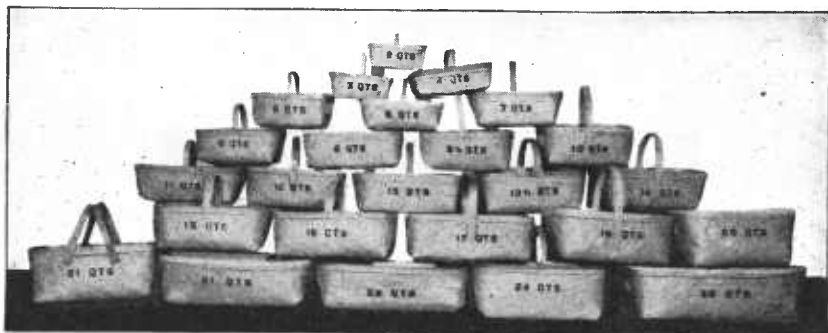
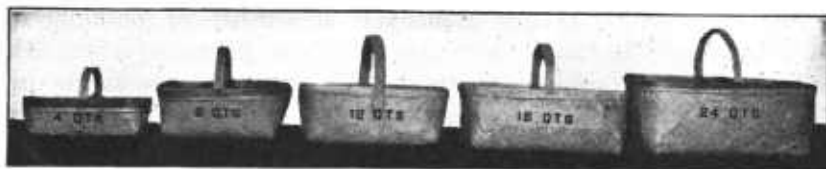


FIG. 14.—Above: Proposed sizes for standards. Below: Twenty-five styles and sizes of market or splint baskets manufactured and used to-day.



FIG. 15.—Above: Proposed standard sizes of round stave baskets. Below: Twenty sizes of round stave baskets in general use to-day.

The splint basket is used extensively as a shipping container for farm produce. In the farmers' market of one large city alone sales of produce in market baskets run as high as \$11,000 in a single day, and in many other cities the market basket is one of the most common containers. It is preeminently a direct marketing package, and it is valuable because it can be carried conveniently, thus encouraging the purchase of produce in larger quantities than might be bought otherwise. In figure 14 twenty-five styles and sizes are shown, together with the five recommended for standards.

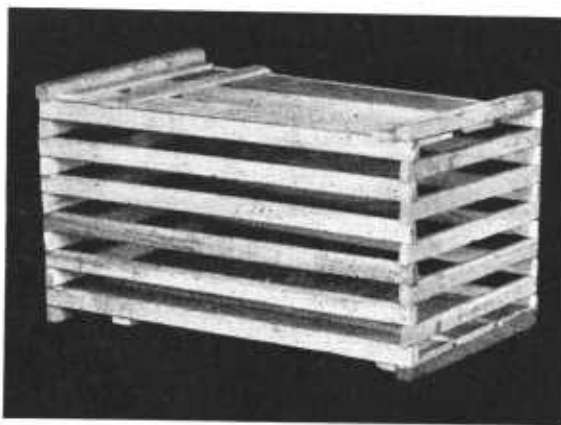


FIG. 16.—The folding crate used extensively in marketing onions.

Many of the styles now in use are unnecessary and deceptive. The peck size has dwindled to one-fifth or one-sixth of a bushel, and the one-half bushel to 12 to 14 quarts, the standard sizes seldom appearing on the markets. The sizes which are proposed by the Bureau of Markets are five in number—4-quart, 8-quart, 12-quart, 16-quart, and 24-quart. Of these sizes the 12-quart and 16-quart will be used most generally. For heavy products the 12-quart size carries better than the 16-quart. The 24-quart size is used for such products as lettuce and spinach.

The number of splint baskets used annually is not known, but more of this type are manufactured than any other. Approximately 50 per cent of these baskets are manufactured in sizes varying from 13 to 15 quarts.

NEED OF STANDARD BOXES AND CRATES.

Fruits and vegetables are shipped extensively in boxes and crates. In many instances these containers have become so well established through long usage that they have practically become standards, and in a few cases these packages have been standardized by law. The latter situation is true of the northwestern apple box (Fig. 17), the Texas folding crate (Fig. 16), and others.

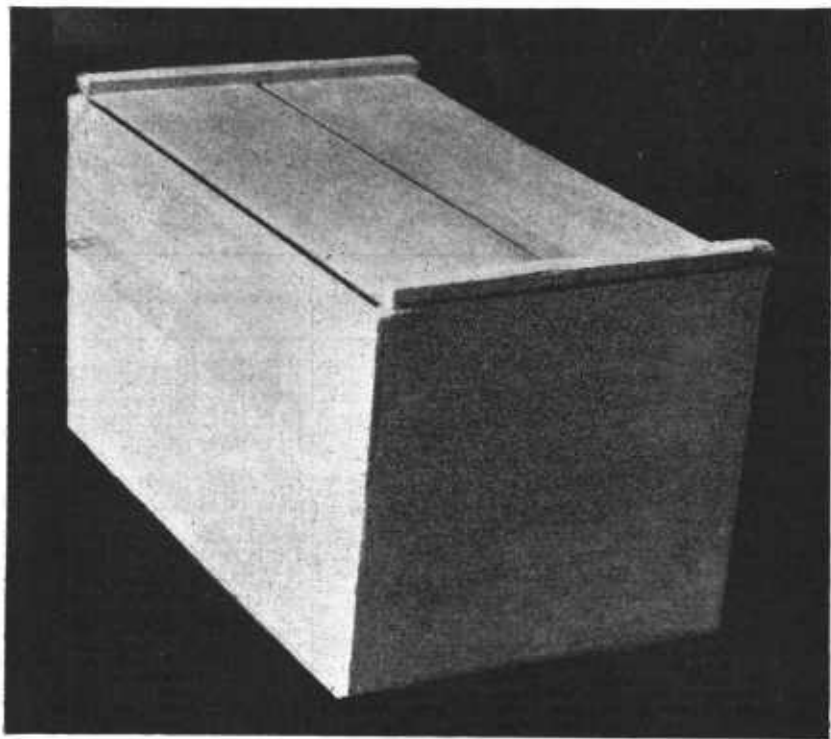


FIG. 17.—Northwestern apple box. Over 35,000,000 of these boxes are used annually.

The problem of standardization must be approached from two angles: First, standards based on the bushel with its multiples and subdivisions for use in shipping products sold extensively by the bushel, and also sold in baskets standardized on the basis of the bushel; and, second, crates of standard dimensions which are not based on volume but on their particular desirability for use in packing certain crops. Under the first division would come crates for such products as potatoes, onions, and apples, and under the second, special crates for cantaloupes, celery, asparagus, and pineapples.

The work of standardization should be carried on with a view to securing uniformity in the case of many boxes and crates of nearly but not exactly the same size.

PRODUCE BOXES.

Produce boxes or lug boxes are commonly used for marketing locally grown farm produce in the city markets. In many localities there is such a serious lack of uniformity in the sizes of these boxes that it is impossible to know the exact capacity, and thus opportunity is afforded for deception. Figure 18 shows a type in use in one eastern city. These boxes are made in sizes varying from 25 to 33 quarts, although they are supposed to contain 1 bushel.

The following table shows the variety of lugs now in use in some of the principal markets of the country:

Produce boxes.

Type.	Inside dimensions (inches).	Capacity (cubic inches).
Rochester, N. Y., box.....	11 by 14½ by 16½.....	2,586
Buffalo, N. Y., box.....	10 by 14½ by 18½.....	2,600
Do.....	11 by 14½ by 16½.....	2,586
Huntington, W. Va., box.....	11½ by 14½ by 16½.....	2,704
Do.....	11½ by 13 by 17½.....	2,523
Harrisburg, Pa., box.....	11½ by 13½ by 17½.....	2,716
Detroit, Mich.: Rigid ventilated box.....	12 by 13½ by 16½.....	2,713
Folding box.....	11½ by 14½ by 16½.....	2,754
Columbus, Ohio.....	12½ by 13½ by 14.....	2,406
Milwaukee, Wis.....	6½ by 15 by 18.....	2,565
Cleveland, Ohio.....	6 by 13 by 20½.....	2,158
Do.....	8 by 15 by 18.....	2,160
St. Louis, Mo.....	8½ by 11½ by 22.....	2,182
Providence, R. I.....	7½ by 17½ by 17½.....	2,163
Boston, Mass.....	8 by 18 by 18.....	2,592
Richmond, Va.: No. 3 canned goods box.....	10 by 13 by 17½.....	2,275
Soap box.....	7½ by 14½ by 18½.....	2,012
Washington, D. C.....	6½ by 12 by 22.....	1,716
Do.....	7½ by 13½ by 19.....	1,859
Do.....	7 by 13 by 22.....	2,002
Do.....	6½ by 16 by 21.....	2,268
Philadelphia, Pa.....	15 by 18½ by 20.....	5,625
San Francisco, Calif.: 40-pound lug box.....	7½ by 12 by 20½.....	1,883
50-pound lug box.....	7½ by 14 by 22½.....	2,414
60-pound lug box.....	8½ by 14 by 22½.....	2,648
Do.....	9 by 14 by 22½.....	2,804
Los Angeles, Calif.....	5½ by 14 by 16½.....	1,308
Chicago, Ill.....	5½ by 12 by 14½.....	940
Do.....	5½ by 12½ by 16.....	1,100
Do.....	5½ by 12½ by 14½.....	1,019
Buffalo, N. Y.....	5½ by 14 by 15.....	1,207
Providence, R. I.....	6½ by 13 by 13.....	1,099

Attempts to standardize produce boxes on the basis of the weight bushel have been unsatisfactory and have led away from any attempt at uniformity. Some of these boxes hold nearly 5 pecks.

Produce boxes should be standardized on the same basis as fruit and vegetable crates. Two sizes, $\frac{1}{2}$ -bushel and 1-bushel, will meet practically all requirements of the trade, but if larger sizes seem desirable for any particular purpose they should be manufactured in $1\frac{1}{2}$ -bushel size or in multiples of the bushel.

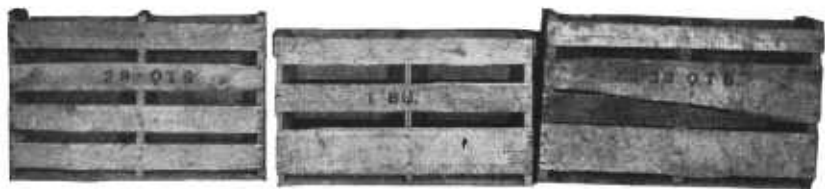


FIG. 18.—Produce or lug boxes varying in size from 25 quarts to 33 quarts. All sell on the wholesale market for the same price.

NOTES ON OTHER CONTAINERS.

The investigations of the Bureau of Markets have covered practically all styles of packages used in marketing fruits and vegetables in the United States. While in many instances these studies have not progressed to a point where it is advisable to make definite recommendations the information which follows serves to point out many opportunities for applying the general principles which have been set forth. There is no doubt that, through intelligent legislation, the number of styles and sizes could be reduced without interfering with the requirements of the industry.

APPLE BOXES.

The northwestern apple box (See fig. 17) is now generally recognized as the standard in all the western apple districts, and with the exception of California, where a special box $9\frac{3}{4}$ by 11 by $20\frac{1}{4}$ inches is also made, it is used almost exclusively. The inside dimensions of the northwestern box are $10\frac{1}{2}$ by $11\frac{1}{2}$ by 18 inches, with a cubic content of 2,173 cubic inches. In the interest of the general problem of standardization, the content of this box might be made to conform to the standard bushel, by reducing the depth from $11\frac{1}{2}$ to $11\frac{3}{8}$ inches without interfering in any way with the present packing methods.

ASPARAGUS CRATES AND BOXES.

Asparagus is marketed in specially-constructed crates and boxes. A very popular type of crate for long stalks of asparagus is pyramidal in form. Asparagus having short stalks is generally marketed in boxes and is either laid on end or placed with the tips

up. Illinois growers use boxes having 20 or 24 compartments similar to the divisions of an egg case. (See fig. 19.) Each compartment contains one bunch of asparagus. The type of crate in most general use in California and South Carolina is a pyramidal crate holding

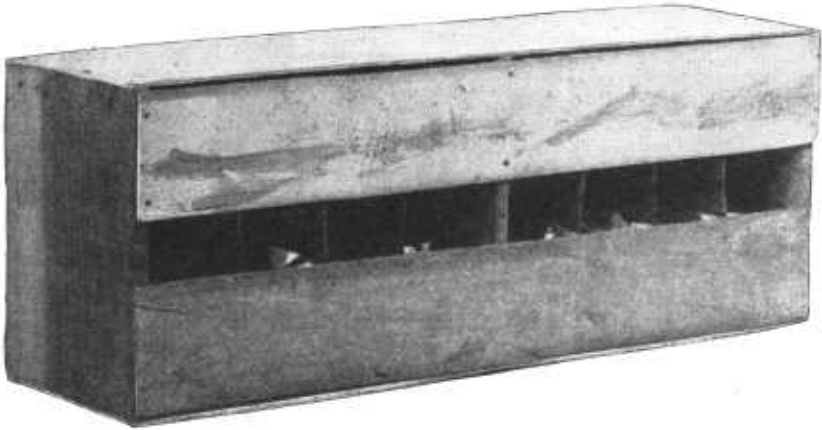


FIG. 19.—Illinois asparagus crate with 24 compartments.

1 dozen bunches. (See fig. 20.) These bunches are placed ends down in moss laid on the bottom of the crate. Occasionally asparagus is shipped loose in this same crate. A small pyramidal crate is used in Illinois, while New Jersey uses larger crates of the same type

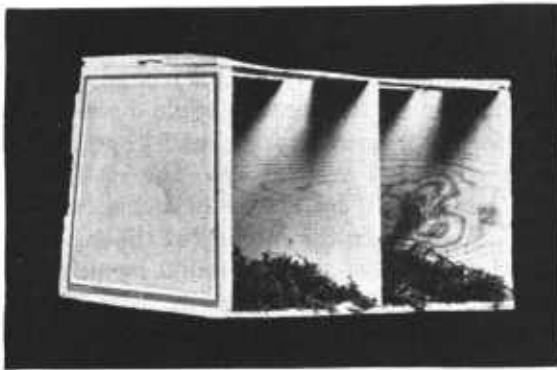


FIG. 20.—California pyramid crate used for asparagus.

holding 2 dozen bunches. Maryland ships in rectangular boxes holding 24 to 36 bunches. It is believed that the pyramidal crate best adapted to marketing asparagus is the California crate. (Fig. 20.) The Illinois compartment box is a satisfactory shipping container and might be standardized in the 24-bunch size. No further con-

clusions have been reached regarding types of asparagus boxes that might be standardized. The following is a list of the various types of asparagus crates in general use in 1920:

PYRAMIDAL ASPARAGUS CRATES.

Type.	Inside dimensions (inches).	Contents.
California.....	(9½ by 11) by 10½ by 17½.....	12 bunches.
South Carolina.....	(9½ by 11) by 10½ by 17½.....	Do.
New Jersey.....	(14½ by 19) by 11½ by 23.....	2 dozen bunches.
Maryland.....	(14 by 16) by 9½ by 24½.....	Do.
Delaware.....	(9 by 12) by 10 by 30.....	Do.
Do.....	(9 by 12) by 10 by 24.....	1½ dozen bunches.
Do.....	(9 by 12) by 10 by 14.....	1 dozen bunches.
Washington.....	(6 by 10) by 8 by 18.....	Do.
Illinois.....	(4 by 5½) by 8½ by 20½.....	18 pounds.
Do.....	(3½ by 5) by 8 by 20½.....	Do.
Do.....	(4½ by 5½) by 8½ by 20½.....	Do.
Do.....	(4½ by 5½) by 10½ by 16.....	12 bunches or 18 pounds.

ASPARAGUS BOXES.

California.....	6½ by 15 by 21½.....	50 pounds.
Do.....	3½ by 18 by 17.....	20 pounds.
Illinois.....	6 by 8 by 20½.....	2 dozen bunches.
Do.....	6 by 8 by 21½.....	Do.
Do.....	4 by 8 by 20½.....	20 bunches.
Do.....	4 by 7½ by 20½.....	Loose.
Maryland.....	10 by 16 by 27½.....	28, 32, or 36 bunches.
Washington.....	14 by 3½ by 17½.....	15 pounds.

CABBAGE CRATES.

In addition to large sales of cabbage in bulk or by the barrel, cabbage is sold extensively in crates of many varying dimensions and sizes. The following list shows some of the sizes in general use in 1920 with probable point of origin. Many other sizes might be mentioned.

Location.	Inside dimensions (inches).	Outside dimensions (inches).	Capacity (cubic inches).
Coleman, Fla.....	12 by 20 by 33.....	12½ by 20½ by 36.....	7,920
Sanford, Fla.....	12 by 18 by 33.....	12½ by 18½ by 36.....	7,128
New York, N. Y.....	34 by 19 by 11.....	11½ by 19½ by 35½.....	7,106
Yonges Island, S. C.....	10½ by 19 by 37½.....	11½ by 19½ by 39½.....	7,461
Denver, Colo.....	21 by 24 by 22.....	26 by 22½ by 22½.....	11,088
Rural Retreat, Va.....	18 by 23 by 24.....	18½ by 24½ by 24½.....	9,936
Do.....	11 by 23½ by 24.....	11½ by 24 by 24½.....	6,105
Atlanta, Ga.....	18 by 18 by 30½.....	18½ by 18½ by 33½.....	9,882
Marietta, Ohio.....	16 by 16 by 30.....	16½ by 16½ by 31½.....	7,620
St. Paul, Minn.....	15 by 15 by 31.....	15½ by 15½ by 34.....	6,975
Minneapolis, Minn.....	17½ by 17½ by 30½.....	18½ by 18½ by 34.....	9,417
Dyer, Tenn.....	12 by 16 by 22.....	12½ by 16½ by 24.....	4,224
Dallas, Tex.....	20 by 20 by 25.....	21 by 21 by 28.....	10,000
Los Angeles, Calif.....	13 by 18 by 24½.....	13½ by 18½ by 25½.....	5,696
Do.....	18 by 18 by 23½.....	18½ by 18½ by 24½.....	7,695
San Francisco, Calif.....	18 by 24 by 20½.....	18½ by 24½ by 24.....	8,964
Do.....	24 by 24 by 21½.....	24½ by 24½ by 24.....	12,240
Puyallup, Wash.....	24 by 24 by 24.....	24½ by 24½ by 25½.....	13,824
Portland, Oreg.....	24 by 19½ by 21½.....	24½ by 22 by 24.....	9,817
Chicago, Ill.....	15 by 15 by 27½.....	16 by 16 by 30.....	6,187



FIG. 21.—Cabbage crate in common use on the Atlantic Coast (12" x 18" x 33").

A study of this table shows that the capacity of most cabbage crates varies from about 6,000 to 9,000 cubic inches. In so far as capacity is concerned, this large number of sizes could be reduced to two or three. The four types included in the following table are the most popular, taking the country as a whole.

Along the Atlantic coast the long narrow crate with a centerpiece is in use for Wakefield cabbage, whereas in the Middle West crates with square ends are in general use for all varieties. (See figs. 21 and 22.) Investigations thus far carried on indicate that further investigations may show other desirable crates.

Type.	Inside dimensions (inches).	Length of slat (inches).	Capacity (cubic inches).
Atlantic Coast type.....	12 by 18 by 33.....	36	7,128
Mississippi Valley type.....	16 by 16 by 28.....	30	7,168
Colorado type.....	21 by 22 by 24.....	24	11,088
California type.....	18 by 18 by 23½.....	24½	7,695

The weight in these crates will vary according to the method of packing and the variety of cabbage marketed. Generally speaking, the Florida, Mississippi Valley, and California types will hold approximately 100 pounds. The Colorado crate will hold about 160 pounds, depending upon the variety.



FIG. 22.—Cabbage crate in common use in the Middle West (16" x 16" x 28").

CANTALOUPE CRATES.

Cantaloupes are marketed in special crates (See fig. 23), the dimensions of which are fixed to contain a certain numerical count. Square-end crates hold 36, 45, and 54 melons each, while small crates known as "flats" hold 12 or 15 melons. In the East the large crates are made with paneled ends; in the West the slats forming the heads are nailed to triangular posts. Flat crates from all sections have solid ends. The following types and sizes were in general use in 1920:

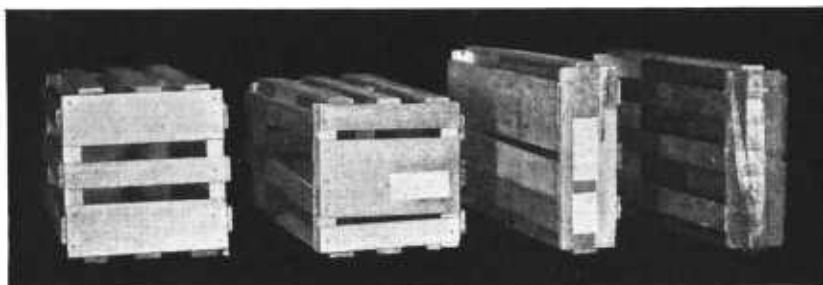


FIG. 23.—Four suggested sizes of cantaloupe crates: Standard, Pony, Standard Flat, and Pony Flat.

Type.	Inside dimensions (inches).	Contents.
Square heads:		
California standard crate.....	12 by 12 by 22½	36 or 45 melons.
California pony crate.....	11 by 11 by 22½	45 or 54 melons.
Eastern pony crate.....	11 by 11 by 22	45 or 54 melons.
Eastern standard crate.....	12 by 12 by 22	36 or 45 melons.
Delaware pony crate.....	10½ by 10½ by 20½	
Delaware jumbo crate.....	14 by 14 by 24	
Norfolk crate.....	10½ by 13 by 26	Jumble pack.
Illinois crate.....	8 by 8 by 16½	16 melons.
Flat crates:		
California standard flat.....	4½ by 13½ by 22½	12 or 15 melons.
California pony flat.....	4 by 12 by 22½	12 or 15 melons.
Colorado special standard flat.....	4½ by 13 by 22½	12 or 15 melons.
Colorado jumbo flat.....	5 by 14½ by 22½	12 or 15 melons.
Georgia flat.....	4 by 12 by 22	12 or 15 melons.
North Carolina flat.....	4½ by 13 by 22½	12 or 15 melons.
Indiana flat.....	4½ by 12½ by 17	
Indiana flat.....	4½ by 13½ by 21	

The large number of sizes given could be readily reduced to six, possibly to four types of crates without interfering with the standard pack. (See fig. 23.)

The suggested sizes are:

Standard	inches—	12	by	12	by	22½
Pony	do—	11	by	11	by	22½
Standard flat	do—	4½	by	13½	by	22½
Pony flat	do—	4	by	12	by	22½
Jumbo	do—	13	by	13	by	22½
Jumbo flat	do—	5	by	14½	by	22½

CAULIFLOWER CRATES.

Crates are used extensively in marketing cauliflower. Barrels are too large and do not supply sufficient ventilation and baskets are not satisfactory. In California a standard crate holding from 2 dozen to $2\frac{1}{2}$ dozen heads of cauliflower and a pony crate holding 12 to 15 heads are in general use. In western New York a rectangular crate 8 by $18\frac{1}{2}$ by $20\frac{1}{4}$ inches and a cradle crate ($13\frac{1}{2}$ by 18 inches) by 8 by $23\frac{1}{2}$ inches are popular. A cradle crate affords better ventilation in loading, as spaces are left between the crates. The Long Island crate is not so satisfactory to the trade as the other crates. The following list contains many of the sizes in general use in 1920:

Type.	Inside dimensions (inches).	Capacity.
Standard California crate.....	13 by 18 by $21\frac{1}{4}$	5,118 cubic inches.
Pony.....	$8\frac{1}{2}$ by 18 by $23\frac{1}{4}$	3,538 cubic inches.
Oregon flat crate.....	8 by 18 by $23\frac{1}{4}$	3,384 cubic inches.
Oregon special crate.....	13 by 18 by $26\frac{1}{4}$, outside.....	
Western New York crate.....	8 by $18\frac{1}{2}$ by $20\frac{1}{4}$	2997.
New York cradle crate.....	($13\frac{1}{2}$ by 18) by 8 by $23\frac{1}{2}$	12 to 14 heads.
Long Island crate.....	13 by 15 by 23.....	4,485 cubic inches.
New York crate.....	$13\frac{1}{2}$ by 16 by $23\frac{1}{4}$	5,022 cubic inches.
Colorado crate.....	21 by 25 by 22.....	125 to 150 pounds.
Do.....	10 by 21 by 26.....	60 to 70 pounds.
Colorado cradle crate.....	14 by $17\frac{1}{2}$ by 8 by 26.....	1 dozen.

CELERY CRATES AND BOXES.

Celery must of necessity be marketed in special crates. The size of the crate will, in part at least, depend upon the variety and size of the celery plant. The bottoms of celery crates can be readily standardized, but it may be necessary to vary the depth to provide for stock of various sizes. A few of the various types of crates in general use in 1920 are given in the following table:

Celery crates and boxes.

Type of container.	Inside dimensions (inches).	Type of container.	Inside dimensions (inches).
Florida standard.....	10 by 20 by 22	Texas crate.....	19 by 22 by 23
Manatee crate.....	12 by 18 by 22	California 18-inch crate.....	18 by 22 by 24
Michigan highball.....	10 by 12 by 18	California 20-inch crate.....	20 by 22 by 24
Michigan special highball.....	12 by $15\frac{1}{2}$ by 18	California 22-inch crate.....	22 by 22 by 24
New York special.....	20 by 21 by 23	Colorado crate.....	21 by 22 by 24
New York standard crate.....	21 by 21 by 23	New Jersey crate (oblong).....	18 by 20 by 28
New York crate.....	22 by 22 by 23	Ohio crate.....	14 by 18 by 28
Do.....	21 by 22 by 22	Kalamazoo crate.....	6 by 14 by 21
Oregon 18-inch crate.....	18 by 22 by 23	Decatur box.....	6 by 14 by 23
Oregon 20-inch crate.....	20 by 22 by 23	Grand Haven box.....	$9\frac{1}{2}$ by $9\frac{1}{2}$ by 17
Oregon 22-inch crate.....	22 by 22 by 23	Hudsonville box.....	9 by 9 by 17

Florida growers have adopted a standard celery crate, 10 by 20 by 22 inches, which is proving satisfactory. (See fig. 25.) Celery crates in general use in Colorado, California, New York, and New Jersey could readily be standardized, as they vary but slightly in size or shape. (See fig. 24.) Michigan crates and boxes appear to show no indications of standardization. The

paneled end of Michigan crates have the dimensions 12 by 18 inches. Slats are used with this head or panel from 8 to 28 inches

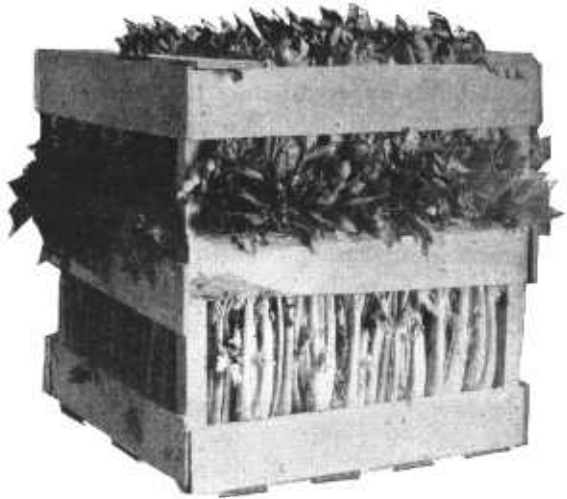


FIG. 24.—Colorado celery crate (19½" x 21" x 27"). The celery crates used in California, New York, and New Jersey are similar to this crate.

in length in steps of 2 inches each, that is, 10, 12, 14, etc. This makes about 11 sizes of crates having a 12-by-18-inch end.

Boxes are used with ends 6 by 8 inches, 6 by 10 inches, 6 by 12 inches, and so on up, in 2-inch steps, to about 6 by 20 inches, making the same number by different sizes of ends, with veneer to suit the individual fancy of the shippers. Certainly this number could be greatly reduced.



FIG. 25.—Florida celery crate (10" x 20" x 22").

CITRUS BOXES.

There are two orange boxes in common use—the California box, which holds approximately 1.47 bushels, and the Florida box, which contains 1.6 bushels. (See fig. 26.) Both boxes are well established by custom and the difference in capacity is recognized everywhere by the trade. The establishment of a uniform standard is of little interest to the public, as citrus fruit is packed and sold by numerical count rather than by measure. The orange box is used for grapefruit as well.

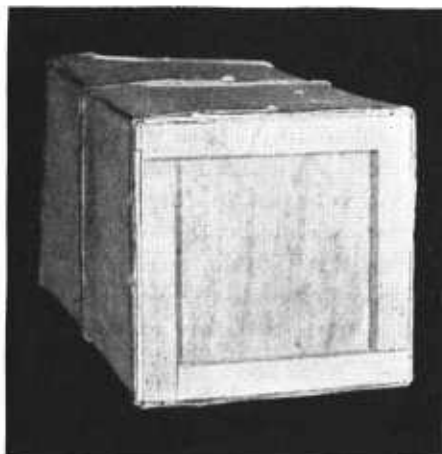
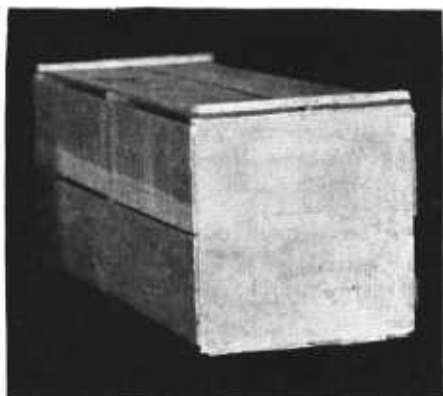


FIG. 26.—The California orange box (left) holds 1.47 bushels or about 4 quarts less than the Florida orange box (right).

Type.	Inside dimensions (inches).	Capacity (cubic inches).
California orange box.....	11½ by 11½ by 24.....	3,174
Florida orange box.....	12 by 12 by 24.....	3,456
Florida tangerine box.....	6 by 12 by 24.....	1,728
California lemon box.....	10 by 13 by 25.....	3,250
California Jumbo lemon box.....	11½ by 13½ by 25.....	3,754
Italian lemon box.....	10½ by 13½ by 25.....	3,544

CHERRY BOXES.

Western cherries are shipped in boxes. The types in most general use are 10-pound and 20-pound boxes. (See fig. 27.) A 15-pound lug box for a loose pack is also used in some sections of California. Inside dimensions of these boxes are as follows:

10-pound box.....	2¼ by 9 by 18 inches.
20-pound box.....	4½ by 9 by 18 inches.
15-pound cherry lug.....	4½ by 11½ by 18 inches.

These sizes are now standardized by law in California.

CRANBERRY BOXES.

Cranberries are marketed in boxes of several sizes, as well as in the standard cranberry barrel. A 50-pound box, holding one-half barrel, is popular. The capacity of this box is a trifle over 44 quarts. In the interest of crate standardization this box might be readily increased in size to $1\frac{1}{2}$ bushels.



FIG. 27.—California 10-pound and 20-pound cherry boxes.

The so-called bushel box for cranberries, standardized by State law in New Jersey and Massachusetts, is a short bushel, holding 1,980 cubic inches. It holds somewhat over one-third of a cranberry barrel. This crate should be increased in size to 1 bushel. A special 21-pound cranberry crate, holding about 20 quarts, is used by the New York trade. The inside dimensions of cranberry boxes are as follows :

Type.	Inside dimensions (inches).	Capacity (cubic inches).
50-pound box	11½ by 13 by 20	2,990
Jersey box	12 by 7½ by 22	1,980
21-pound New York box	10½ by 6½ by 20½	1,380

GRAPE CONTAINERS.

Climax baskets (Fig 6) and a four-basket square crate, containing four 3-quart baskets, are used extensively for marketing grapes. Climax baskets are popular in the East, and the four-basket square crate on the Pacific coast. Delaware grapes are marketed in an eight-basket carrier crate, each basket holding 2 quarts. The lug box is used very extensively in the West for wine grapes. These lugs are made in several sizes, designed to hold from 25 to 40 pounds of grapes. Emperor grapes from California are shipped in kegs and drums holding 2,923 cubic inches. The drum has a $15\frac{1}{2}$ -inch head and is 14 inches between heads.

Grape boxes and crates.

Type.	Inside dimensions (inches).	Capacity.
Pacific Coast 4-basket square crate.....	4½ by 16 by 16.....	Four 3-quart baskets.
Delaware 8-basket crate.....	8 by 10½ by 21½.....	Eight 2-quart baskets.
New York 8-basket crate.....	8½ by 7 by 19.....	Eight 1-quart baskets.
Los Angeles lug box.....	5½ by 14 by 16½.....	1,308 cubic inches.

LETTUCE CRATES AND BOXES.

Lettuce is marketed in about 30 styles of crates and boxes. In addition, some sections of the country use baskets and barrels. Toledo gardeners market leaf lettuce in second-hand vegetable, flour, and sugar barrels. Cleveland uses a 24-quart veneer basket, holding 10

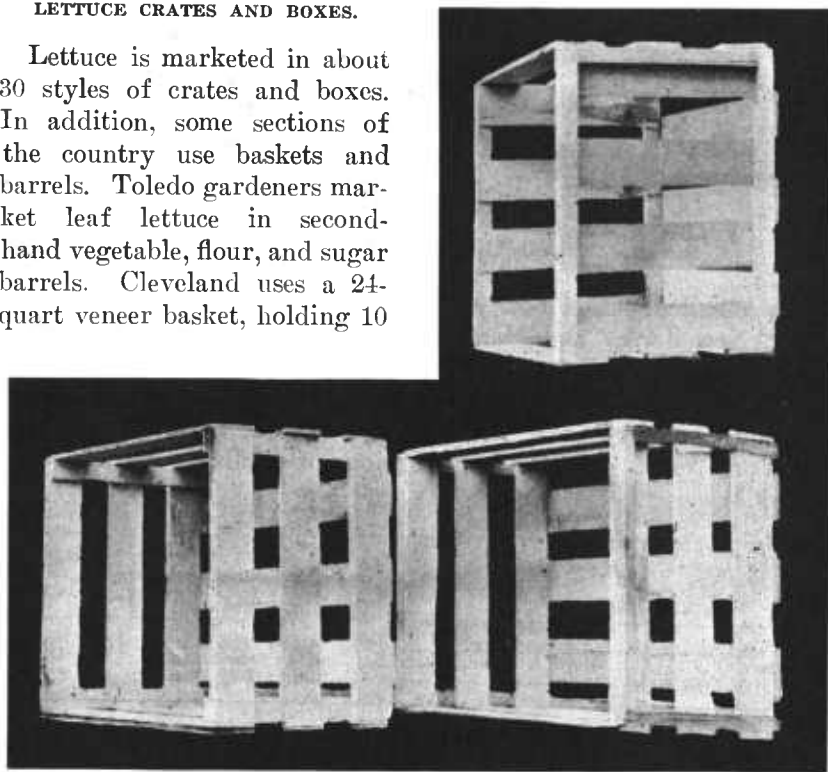


FIG. 28.—California lettuce crates hold 3 to 5 dozen heads of lettuce.

pounds of leaf lettuce. Ashtabula growers use a 14-quart square-cornered splint basket, containing 3 pounds of lettuce. New York uses a 2-dozen crate (See fig. 29) for No. 1 head lettuce and a 44-quart hamper for No. 2 lettuce. Florida shippers use a tall lettuce hamper, in sizes varying from 5 to 6 pecks. A crate holding 2 to 2½ dozen heads, slightly larger than the New York crate, is also used. New Jersey uses a 2-dozen crate. California ships in a crate 13 by 18 by 22½ inches, holding from 3 to 5 dozen heads, according to size. Vin-

cennes, Ind., uses a three-fourths bushel round basket, holding 10 pounds of leaf lettuce, and a standard bushel basket holding approximately 15 pounds of lettuce. Colorado uses crates holding 3, 5, and 8 dozen heads. St. Louis uses a lug box locally, and Illinois growers seem to favor the

use of a smaller box, holding from 2 to 4 pounds of lettuce. The dimensions of these and other crates are given in the following table:



FIG. 29.—New York 2-dozen lettuce crate.

Type.	Inside dimensions (inches).	Contents.	Capacity (cubic inches).
California standard crate.....	13 by 18 by 22½	3 to 5 dozen.	5,177
California short crate.....	12 by 18 by 22½	do.	.....
Do.....	13 by 17 by 22½	do.	.....
Arizona crate.....	8½ by 18 by 22½	4 dozen.	3,442
Salt Lake City crate.....	10 by 13½ by 24½	2½ dozen.	3,307
California special crate.....	10 by 13½ by 18.	2 dozen.	2,430
Brawley, Calif., crate.....	13 by 18 by 21½	3 to 5 dozen.	.....
Seattle crate.....	10½ by 14 by 30½	.....	4,465
Washington crate.....	15½ by 18 by 23½	.....	6,556
Tacoma, Wash., crate.....	15½ by 18 by 23½	.....	6,626
St. Louis crate.....	6½ by 11 by 22½	16 heads.....	1,530
New York crate.....	7½ by 16½ by 20.	2 dozen.....	.....
Do.....	8 by 16½ by 20.	do.	.....
Do.....	7½ by 16½ by 19.	do.	2,351
Chicago box.....	5 by 8 by 15½	2 to 4 pounds	610
Bridgeton, N. J., crate.....	8 by 15½ by 22½	2 dozen.....	2,790
Buffalo crate.....	7½ by 18 by 22.	do.	.....
Do.....	8½ by 16 by 20½	do.	.....
Do.....	8½ by 15 by 20½	do.	.....
Do.....	7½ by 16 by 20½	do.	.....
Florida crate.....	7½ by 18 by 22.	2 to 2½ dozen.	.....
Oregon crate.....	7½ by 10½ by 15.	5 pounds.....	.....
Denver crate.....	15 by 16 by 22.	3 dozen.....	.....
Do.....	15 by 21 by 24.	5 dozen.....	.....
Do.....	21 by 22 by 25.	8 dozen.....	.....
Texas crate.....	7½ by 13½ by 24½	2 dozen.....	.....
Do.....	10½ by 13½ by 24½	2½ dozen.....	.....
Do.....	10½ by 18 by 22½	5 dozen.....	.....
Do.....	15½ by 18 by 22½	6 dozen.....	.....

A study of the dimensions of these crates shows that many are similar in size. There appears to be a very strong demand for a crate holding 2 dozen heads of lettuce. The dimensions of the 2-dozen crate could certainly be readily standardized. There is also considerable call for a lettuce crate holding from 3 to 5 dozen heads. The California standard crate, with the inside dimensions 13 by 18 by 22½ inches, is suggested as a possible standard crate in the larger size. (See fig. 28.)

PEACH BOXES.

The western peach box has been standardized as to length and width by trade custom. (See fig. 30.) These two dimensions are identical with those of the western apple and pear boxes, which facilitates the loading of car lots of mixed fruits. The peach boxes are manufactured in several depths, varying from $3\frac{1}{2}$ to $5\frac{1}{2}$ inches. The $3\frac{1}{2}$ -inch size is used for packing prunes, and when so employed is known as the "suitcase."



FIG. 30.—Western peach box.

PEAR BOXES.

The standard pear box of Washington and California is now in almost universal use. The inside dimensions of this box are $8\frac{1}{2}$ inches deep, $11\frac{1}{2}$ inches wide, and 18 inches long.

PEPPER CRATES.

A special crate with cleated sides and solid top and bottom is in general use for shipping peppers and eggplant. (See fig. 32.) This crate holds about $1\frac{3}{8}$ bushels and generally has the following inside dimensions: Fourteen inches wide, 11 inches deep, and 22 inches inside length. The heads are also manufactured in two other sizes— $14\frac{1}{2}$ by 11 inches and $14\frac{1}{2}$ by $11\frac{1}{4}$ inches. If this crate were to be standardized on the same basis as baskets, it might be made $13\frac{3}{8}$ by 11 by 22 inches, inside measurements, with a cubic content of $1\frac{1}{2}$ bushels.

PINEAPPLE CRATES.

Pineapples are marketed in two styles of crates. The crates used in Florida, Cuba, and the Isle of Pines contain two compartments. The inside dimensions are $10\frac{1}{2}$ by 12 by 33 inches; capacity, 4,158 cubic inches.

The heads are paneled, and two slats, 36 inches in length, are used on the sides, top, and bottom. The Hawaiian pineapple crate has octagonal heads. (See fig. 31.)



FIG. 31.—Hawaiian pineapple crate.

TOMATO CRATES.

In addition to marketing tomatoes in 6-basket carrier crates, 4-basket Mississippi flats, Climax baskets, five-eighths bushel truck bas-

kets, three-fourths bushel, and bushel round stave baskets, several types of crates and boxes are in general use. (See fig. 33.) In New Jersey tomato growers use a tomato crate with a raised top or lid. Formerly this crate held about 27 quarts, but it is now made to contain 20 quarts.

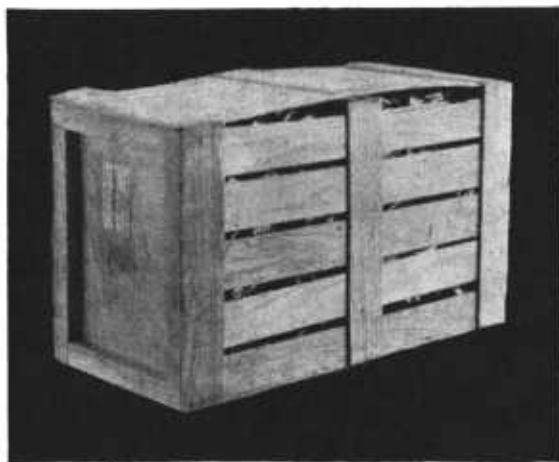


FIG. 32.—Pepper crate, capacity $1\frac{3}{4}$ bushels, should be reduced to $1\frac{1}{2}$ bushels in the interest of standardization.

In the West a tomato lug box is in common use. This

lug box has heads $5\frac{3}{4}$ by 14 inches and is $16\frac{1}{4}$ inches long inside. The following tables gives the dimensions and capacities of tomato crates and boxes in general use in 1920:

Type of container.	Inside dimensions (inches).	Capacity.
20-quart New Jersey crate.....	6½ by 11 by 18½.....	1,373 cubic inches.
27-quart New Jersey crate.....	9 by 11 by 18½.....	1,831 cubic inches.
California lug box.....	5½ by 14 by 16½.....	1,308 cubic inches.
6-basket carrier crate.....	10 by 11 by 22.....	Six 4-quart baskets.
4-basket flat crate.....	11½ by 13½ by 4½ by 20½.....	Four 3-quart baskets.

PROGRESS IN STANDARDIZATION.

Since the passage of the Federal standard barrel Act, in 1915, there has been a steady progress in the work of eliminating unnecessary and deceptive sizes from the list of containers used in marketing fruits and vegetables. The passage of the United States standard container Act, establishing standards for grape baskets, berry boxes, and small till baskets, followed in 1916. At the present time a bill is pending in Congress which, if it becomes a law will provide standards for three other important marketing containers—the round stave basket, the hamper, and the splint or market basket. The entire industry has given whole-hearted support to the general principle, and the problem which now remains is that of determining which containers should be abolished and which should be retained.

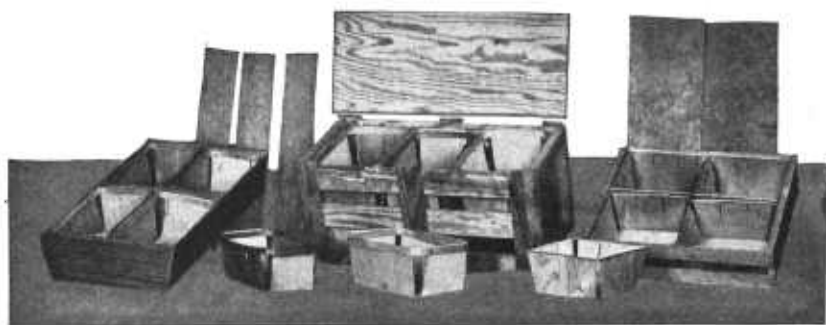


FIG. 33.—Crates used for tomatoes, peaches, and other small fruits. Left: 4-basket crate from Mississippi and Texas. Center: 6-basket carrier crate for tomatoes and peaches. Right: 4-basket western grape crate.



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